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# Problems in Readjusting the Engineer to Postwar Conditions

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(Editor's Note: This essay was awarded first prize in the Tau Beta Pi Pledge Contest)

**D**URING the present emergency the majority of engineers are devoting their energies, either directly or indirectly to the winning of the war. Many are serving in the armed forces; others are engaged in production of war materials and of necessary civilian items; still others are utilizing their knowledge and abilities in the search for new products, new processes, and substitutes for vital metals and rubber. In all of these tasks the engineer plays an indispensable role.

But after the war the job of stocking the arsenal of democracy will be superseded by that of reestablishing the peacetime economy of the nation. Flying Fortresses and Liberator bombers will no longer be needed in quantity; facilities for their production may well be converted to the construction of transport planes. Our shipyards will build passenger liners and cargo ships instead of destroyers and battleships. Bomb-sights and torpedo mechanisms will give way to precision instruments more useful to a peaceful nation. Building materials and metals will once again be used for construction of homes, heavy transportation facilities, and power generating equipment. These and many other such conver-

sions will provide opportunities galore for the engineer.

Another problem of gigantic proportions will be reconstruction in those nations of the world whose production facilities will have been largely destroyed by the war. This will call not only for technical information but also for long-time planning and knowledge of social conditions. Here again the services of the engineer can find a ready market.

These many tasks will exact various requirements from the engineers who undertake them. One of the most important is familiarity with up-to-date methods, processes, and materials. During the last few years great advances have been made in nearly all branches of engineering. Vast new fields have been opened up by new applications of the science of electronics. Radar, the mysterious electronic device used in aircraft detection, will probably find many peacetime uses. New developments in powder metallurgy have simplified the construction of innumerable complicated metal products. Million volt X-ray units photograph in a few minutes heavy thicknesses of metal in order to discover flaws in internal structure, an operation which formerly required scores of hours of exposure. Synthetic rubbers are being discovered which for some purposes are superior to natural rubber. Plastics and natural products have found a multitude of uses as metal substitutes. Even plastic stoves will probably be in production by the end of the war.

The principal problem then of the engineer in our postwar world is to become acquainted with the latest developments. This can be accomplished largely through periodicals and technical journals. For many, short "refresher" courses would be beneficial. Those who purpose going abroad for rehabilitation work would likely find the study of languages and social sciences helpful. The best methods of acquiring knowledge will vary considerably with different individuals. The application of this knowledge to new problems is the same job to which the engineer has long been accustomed.

The defeat of Hitler and his allies will mean many changes in this world of ours. In order to help most effectively in bringing about these changes, the engineer would do well to recall the motto of the Boy Scouts, "Be Prepared."

